

Project No. 17-18 (016)

COPY NO.

*Creating a Traffic Safety Culture – A Case Study of Four Successful States
Case Study Two: Iowa*

***PRELIMINARY DRAFT
FINAL REPORT***

*Prepared for
National Cooperative Highway Research Program
Transportation Research Board
Of
The National Academies*

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East Lansing, MI
May 2007*

ACKNOWLEDGMENT OF SPONSORSHIP

This work was sponsored by the American Association of State Highway and Transportation Officials, in cooperation with the Federal Highway Administration, and was conducted in the **National Cooperative Highway Research Program** which is administered by the Transportation Research Board of the National Academies.

AUTHOR ACKNOWLEDGMENTS

The research reported herein was performed under NCHRP Project 17-18 (016) by the Mercer Consulting Group (MCG) LLC. Betty J. Mercer, President of MCG LLC, was the Project Director and co-author. The other author and Principal Investigator of this report is Mark Iansiti, consultant, of Highway Safety Consulting, Okemos, Michigan.

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ABSTRACT

This is the second of a series of reports intended to document results from four case studies. Conducted in four States – Iowa, Michigan, Minnesota and Washington – the studies were designed to identify which technical and institutional factors most likely led to the creation of a successful culture of safety. The second study, conducted in Iowa, included interviews held with selected key Federal, State, and local safety officials. The interview questions were centered on four key focus areas – background information, organizational leadership, political leadership and institutionalizing safety. The most effective strategies, documented in the report, have led to significant reductions in the State's fatality rate. The findings suggest that Iowa's safety achievements are due in large part to the long-standing willingness of the State and local agencies to place their resources where they will reap the biggest benefits. The predominantly rural nature of the local roadway system has responded well to a variety of initiatives which promote low cost safety improvements. These assistance programs have been encouraged by the State and the improvements funded by a special road use tax. Iowa's data collection, analysis and application systems are outstanding and are made available to all users free of charge. Stable leadership at the State level has been provided and is supported statewide through the infrastructure of the broad-based Safety Management System. Into the future, the theme of "1 Death is 1 Too Many" clearly signifies the continued high level of dedication and commitment which the State's safety community will provide to further improve the safety of the roadways.

CREATING A TRAFFIC SAFETY CULTURE - IOWA

Foreword

The Federal Highway Administration (FHWA) and the National Cooperative Highway Research Program (NCHRP) in cooperation with the American Association of State Highway and Transportation Officials (AASHTO) sponsored this Case Study to document organizational elements that support successful State programs and strategies to reduce highway fatalities and serious injuries.

The Case Study examines the technical and institutional factors implemented by the State Departments of Transportation (DOT) and State Highway Safety Offices (SHSO) in Iowa, Michigan, Minnesota and Washington that resulted in a culture of safety in each State. These States were selected based upon their success in reducing fatalities and serious injuries over time. The Case Study covers the past 30 years and focuses on key milestones, individuals and agencies. The champions of safety and the actions that led to both immediate gains and sustained safety achievements over time are highlighted. The Case Study for each State is contained in a separate report. An executive-level presentation describing common themes noted in all four States will also be available.

The primary focus of this Case Study is the role of the State DOT and the SHSO in supporting the traffic safety culture. Interviews were conducted in each State with the Governor's Highway Safety Representative/SHSO Director, the DOT Safety Engineer and Planner, FHWA and National Highway Traffic Safety Administration (NHTSA) representatives, Metropolitan Planning Organizations (MPOs), and local agencies. Although additional key State and local traffic safety partners have made significant contributions to the State safety programs, they were not individually interviewed for the Case Study and their contribution is referenced only in a general manner.

The target audience of the Case Study is the mid and higher levels of leadership in the transportation safety community, including the DOT Safety Engineers and SHSO Directors who are responsible for implementing the State Strategic Highway Safety Plans. It is hoped that sharing these lessons learned will provide other States with useful information and guidance to further enhance their safety programs.

Executive Summary

In sharp contrast to an increasing national rate of traffic-related fatalities, there are some States which are achieving continual improvements in their record. This type of result most likely signals that these States have found a winning combination of strategies and identified methods that ensure effective implementation. It is apparent that the consistent impetus for achieving this type of success is the development of a statewide traffic safety culture. Discovering the key to establishing such a culture could be very useful to other States seeking to make similar strides in safety.

Over the past five years, the State of Iowa has experienced consistent decreases in its traffic-related fatality rate. And, in 2006, Iowa recorded the highest rate of seat belt use in its history. Complementing these achievements, the State also has achieved the distinction of having the second-lowest rate of any State in the country for alcohol impairment in fatal crashes.

In order to fully appreciate Iowa's traffic safety record, it is important to gain a clear understanding of the structural characteristics under which it operates. Consisting primarily of local two-lane roads – most of which are unpaved – the State has a unique challenge in its roadway structure. In addition, Iowa has a high number of intersections with the potential for serious crashes.

Because of the primarily rural nature of its roads, over time it has become increasingly important that State and local agencies work together to implement low-cost solutions. The cornerstone of these efforts has been the priority placed on the development, analysis and distribution of quality traffic crash data. Iowa is the birthplace of a national model data collection system. State and local agencies are well prepared to identify the “worst first” corridors and intersections and then collaboratively seek the most efficient and effective countermeasures. The development of user-friendly data analysis tools and technical assistance has been bolstered by the expertise of State university resources. These programs have been made widely available at very little or no cost to local agencies.

Supporting these efforts in a most critical manner is the State funded Traffic Safety Improvement Program. This road use tax generates nearly \$5 million annually for safety studies, traffic control devices and site specific construction or enhancement projects on both State and local roads.

The Iowa Department of Transportation's Office of Traffic and Safety and the Department of Public Safety's Governor's Traffic Safety Bureau have a well-established, effective relationship based upon a shared commitment to saving lives. Their co-leadership of the State's Safety Management System began in the 1990s and is still in place today. The result is a truly comprehensive approach to traffic safety. A highway safety strategy “Toolbox”, developed by the coordinating committee, is a living document which continues to be amended with new information and enhancements gleaned from national direction. To provide expert assistance, Iowa has a State-funded, dedicated highway safety research program at the University of Iowa.

Multiple disciplines at every level of government actively participate in the Safety Management System. Law enforcement agencies comprise a strong infrastructure of support for conducting periodic statewide enforcement mobilizations directed at increasing seat belt use and decreasing impaired driving. Metropolitan Planning Organizations and Regional Planning Affiliations play a key role in providing local leadership and direction to ensure that funds are effectively planned and programmed through data-driven decisions. These are just a few of the many partners across the State which have joined together with a singular focus on improving traffic safety.

The State leadership agencies have long recognized the value of seeking out and participating in national traffic safety initiatives and piloting innovative strategies. Through their relationships with Federal and other State transportation agencies, cutting edge technology and information is frequently brought back for consideration by the safety community.

The safety culture has strong roots in the State's legislature which has traditionally supported critical public policy enhancements. Iowa's primary enforcement seat belt law was achieved twenty years ago, then joining only a handful of States in the country which had seen the value of the stronger law. It is the legislature's support for dedicating significant dollars to safety through a road use tax which most clearly demonstrates the high level of commitment and priority which has been given to roadway safety.

A strong public education and awareness program has been delivered year after year with the assistance of a well-established and respected private sector agency. The net result has been a tremendous media presence being obtained first by generating unprecedented amounts of donated advertising space, and later with supplemental paid media dollars.

Continuing in its long tradition of leadership, the Iowa Safety Management System has recently developed a comprehensive highway safety plan to guide its future work. Supporting the safety culture in a very visible and vocal way with the general public, the group has united behind the theme of "1 Death is 1 Too Many". The statewide traffic safety community continues to have its sights firmly set on those areas which the data has identified as the best targets of opportunity. Using its many talents and resources, the State is certain to continue to find the best solutions to further improve its safety record.

I. Introduction

Despite a national increase in the rate of traffic fatalities over the past five years, the State of Iowa has recorded a consistent decrease. The State's fatality rate per 100 million vehicle miles traveled (VMT) dropped from 3.78 deaths in 1975 to 1.39 in 2006 (preliminary number). Since 1990, in a comparison of how many deaths would have occurred without their strong safety program, the State estimates that the lives of 1,700 of its citizens have been saved.

In 2006, Iowa announced the highest seat belt use rate in its history - 90 percent. In 2005, the State continued its record of having a lower rate, .38, of alcohol-related fatalities per 100 million VMT than the national average (.56).

The following table summarizes Iowa's 2005 demographics and highway characteristics. The high percentage of county and city roads as compared to State roads should be specifically noted.

TABLE 1. IOWA HIGHWAY CHARACTERISTICS

- Population: 2,944,062
- Registered Drivers: 2.1 million
- Registered Vehicles (2005): 3,994,669
- Roadway: 113,838 miles
 - 79% County
 - 13% City
 - 8% State
- Annual VMT: 31.5 billion

SOURCE: Iowa Department of Transportation

Iowa's culture of traffic safety established its strong base of support from a multi-disciplinary approach created by the State's Safety Management System (SMS) structure. Safety has been emphasized statewide with the development of tools and services designed to assist local agencies in the implementation of countermeasures that address problems on all State roads. Through these partnerships, Iowa has been able to take a systematic, data-driven approach to correcting the "worst first" locations, focusing resources in the areas needing the most improvement in safety.

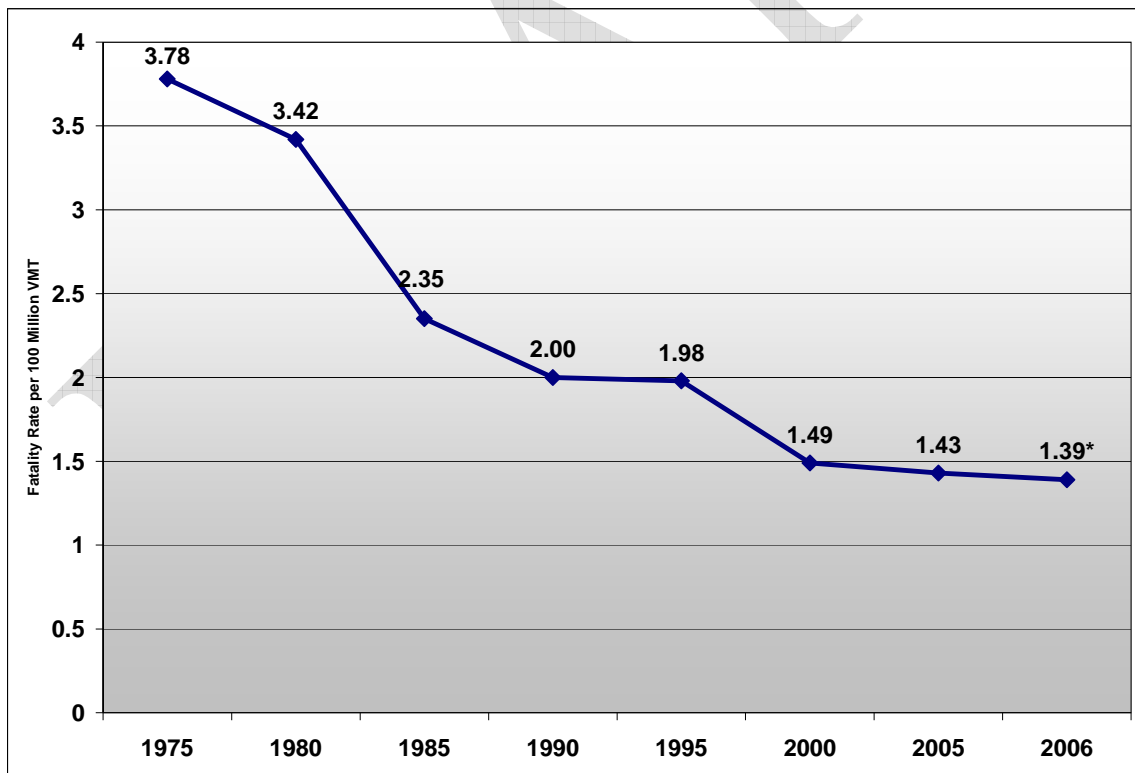


Figure 1. 1976-2006 Iowa Fatality Rate per 100 Million Vehicle Miles Traveled

SOURCE: Office of Driver Services, Iowa Department of Transportation

*Preliminary number

Iowa's unfailing partnerships have proven to be one of its main sources of strength and influence over time. Functioning much like the architects and builders of Iowa's safety structure, key leaders and supporters at the national, State, and local levels have worked together to jointly construct Iowa's traffic safety system. Not one of the key partners involved could have created the State's thriving multi-disciplinary system alone, nor could they have achieved as much success without the help of many other partners that have supported the State's traffic safety initiatives. Working together, Iowa's traffic safety community has made a tremendous impact on roadway safety and will undoubtedly continue to do so for many years to come.

II. Findings

Starting From the Ground Up

Iowa's Traffic Safety Improvement Program (TSIP)

By developing a "ground-up" approach to traffic safety, Iowa has been able to reach roadways that are the most problematic, while at the same time, strengthening partnerships at all levels within the transportation community. This strategy was supported legislatively in 1987 with the creation of the Traffic Safety Improvement Program (TSIP), and has played a significant role in Iowa's traffic safety initiatives and successes.

As one of the most significant and unique programs in Iowa, the TSIP provides a continuous funding source for local governments to implement highway safety improvements. Funded by one-half of one percent of Iowa's Road Use Tax, the TSIP ensures that funds are available for traffic safety improvements on county, city, and State roads. The TSIP program generates approximately \$5 million a year and supports three separate funding categories:

- **Safety Studies** - A total of \$500,000 per year is dedicated to transportation safety research or public information initiatives.
- **Traffic Control Devices** - A total of \$500,000 per year is available to purchase materials for installation of new or replacement signs and signals.
- **Site Specific** - The balance of the funding is used to support construction or improvements at sites with a history of traffic crashes (each State grant does not exceed \$500,000).

Iowa's Safety Management System

Responding to a requirement from the 1991 Inter-modal Surface Transportation Efficiency Act (ISTEA), Iowa's traffic safety leaders formed the Iowa SMS Coordinating Committee in 1995. When the Federal mandate was removed in 1997, the State was one of the few that retained their SMS structure and encouraged broad-based representation from planning, engineering, education, medical and a wide range of advocacy organizations.

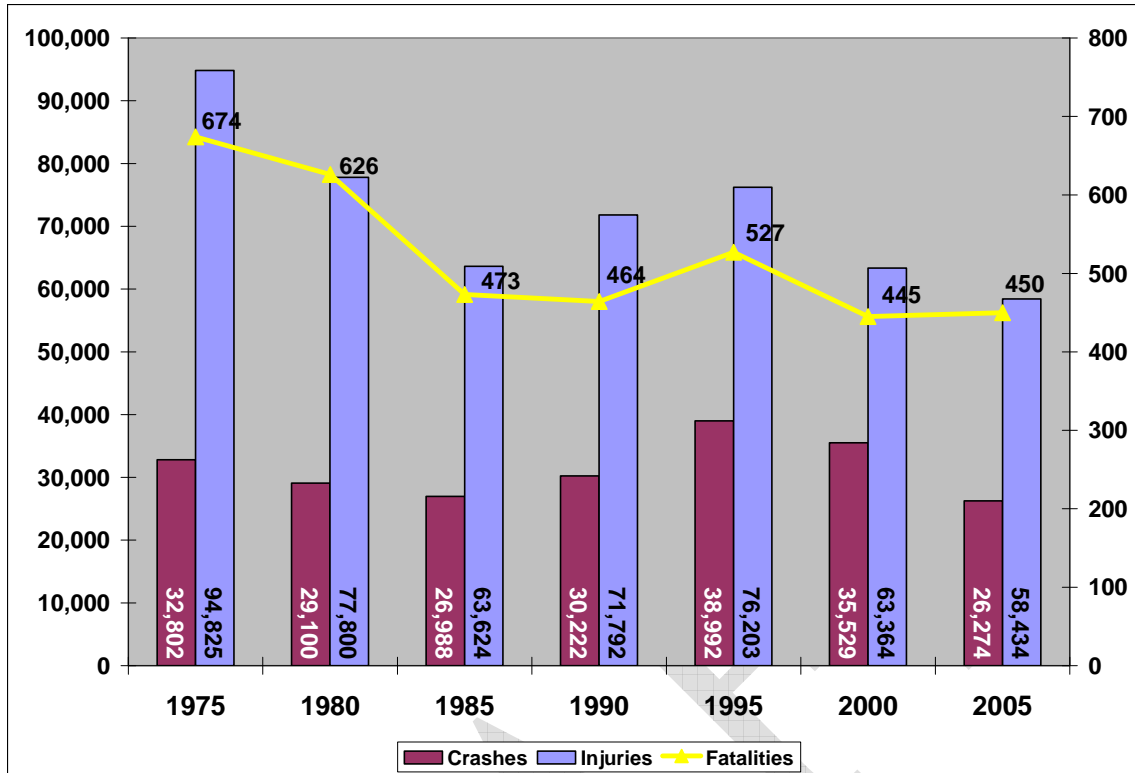


Figure 2. 1976-2005 Number of Iowa Traffic Crashes, Fatalities and Injuries

SOURCE: Office of Driver Services, Iowa Department of Transportation

One of the most beneficial outcomes of the SMS was the development of a compilation of highway safety strategies called the SMS “Toolbox”. With input from over 20 different agencies, the SMS Coordinating Committee modeled the Toolbox after the AASHTO Strategic Highway Safety Plan (SHSP), and developed it with the purpose of providing guidance for traffic safety partners to better identify and initiate traffic safety countermeasures. To accomplish this goal, the Toolbox was organized into five main categories – drivers, special users, highways, emergency response, and management – emphasizing 28 key subject matters within each category. The subject matter provides specific information on the following: program area goals, national and State data, background information, and potential strategies to address problems.

While it reinforces the safety goals and policies of Iowa’s highway safety agencies and practitioners, the SMS Toolbox is considered to be a living document. Its success relies heavily on collaboration between local, State, and Federal government agencies, in addition to the private sector and the general public. To ensure this collaboration, the SMS Coordinating Committee proactively seeks ideas and input to both identify new solutions to current emphasis areas, as well as to identify and address emerging traffic safety issues.

Local Multi-Disciplinary Safety Team (MDST) meetings are held in six of the larger metropolitan areas of the State with the purpose of providing a forum for attendees to meet personally with fellow traffic safety partners. Chaired by local representatives, the

teams were established through the cooperative efforts of the Governor's Traffic Safety Bureau (GTSB), IDOT and the FHWA to assist the communities in addressing local traffic safety issues.

Laying the Foundation

Role of Iowa's Data System

Iowa's nationally recognized data system has provided another key component of the foundation for the State's traffic safety improvements. Data analysis tools were enhanced in the 1980s through an innovative partnership between IDOT and State universities to better analyze and share research information with State and local agencies.

The ability to provide better crash data analysis on all public roads has been the cornerstone around which Iowa's traffic safety policy and programs have revolved. In fact, Iowa's top-notch data system has impacted everything from law enforcement initiatives to properly identifying areas where safety improvements can be made with regard to policies and programming.

Evidence of the influence of the data system can be seen throughout this examination of the multiple strategies which have contributed to Iowa's long term traffic safety success.

Building the Structure Together: Iowa's Traffic Safety Community

Key Leadership and State Support

Leadership and support at the State level is facilitated by cooperative efforts between IDOT's Office of Traffic and Safety, as well its Office of Driver Services, and the Department of Public Safety's (DPS) GTSB. These agencies – and key champions within those agencies – have kept safety at the forefront of planning, funding, and legislative initiatives.

Working in partnership with IDOT and the law enforcement community, the GTSB has developed and delivered federally funded programs targeting unsafe driving behaviors. Non-use of seat belts and impaired driving are major contributors to traffic-related death and injury in Iowa making it a high priority among the State's traffic safety initiatives.

Leadership positions in both the Office of Traffic and Safety and the GTSB have been stable for many years, allowing a long history of partnership to develop. While they both take great pride in their achievements that have directly improved the State's traffic safety record, neither agency has felt the need to take ownership. Instead, they have worked together to continue to find innovative, data-driven programs to best address safety issues in Iowa, and help the State achieve success.

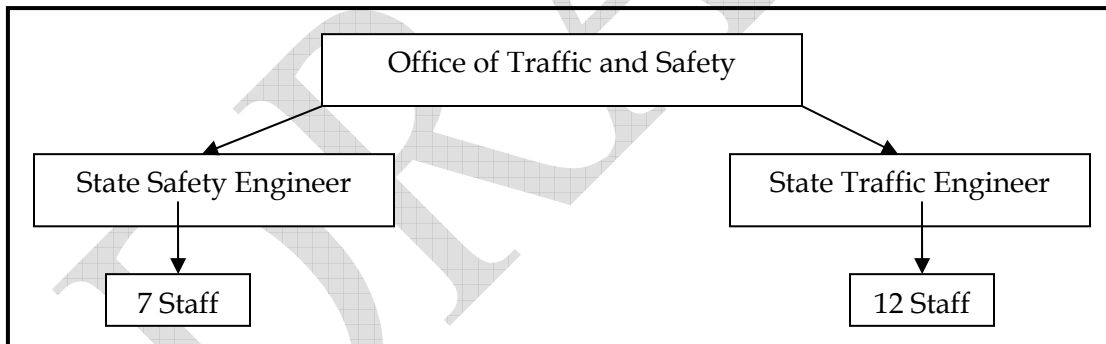
Iowa Department of Transportation (IDOT)

Centrally organized, IDOT takes a system-wide approach to conducting traffic crash analysis activities for all public roads, selecting projects based on the “worst first” methodology. Although funding is not sub allocated to the IDOT districts, traffic safety knowledge is decentralized through training, technical support, and funding. This has resulted in a culture of safety throughout IDOT, as well as with traffic safety partners statewide.

During the 1990s, the Office of Traffic and Safety reported to the Engineering division (prior to reorganization). At that time, the division director was very influential in developing policy and planning initiatives that are considered to be the beginning of IDOT’s modern culture of traffic safety. It was during this period that innovative safety planning and roadway improvements were initiated. Enhanced crash analysis tools were developed - in cooperation with State universities - to help support policy and planning efforts. Better analysis of data helped identify the benefits of a system wide program of roadway improvements, as well as uncover the need for a dedicated funding source.

In order to most effectively coordinate and implement safety efforts, IDOT created an independent position of State Safety Engineer while retaining a separate State Traffic Engineer. Having this dedicated position, along with the supportive safety engineering staff, allows IDOT to make safety a priority on a day-to-day basis.

TABLE 2. IDOT OFFICE OF TRAFFIC AND SAFETY STAFF ORGANIZATION



Source: Iowa Department of Transportation

Through IDOT’s Office of Traffic and Safety, free safety engineering courses have been offered annually to central office design and district staff. The training is now available to counties and cities as well. Participants are assisted in identifying candidate safety locations and cost effective improvements. With a strong framework of experienced engineers in place, the annual trainings are evolving into peer exchanges where engineers can discuss safety issues, share information, and compare strategies. Over time, these regular training sessions contributed to a broad-based culture of safety in the engineering community within both IDOT and local governments.

Through the 1980s and 1990s, IDOT annually produced Safety Candidate Lists which were sent to every county, city, and MPO. The candidate lists rank intersections and road sections for safety. Counties and cities used the ranking each year to make

planning decisions for roadway improvements. In addition, these rankings were picked up and marketed by local news media adding to a culture of awareness on the part of decision makers regarding high risk locations and the need for safety improvements.

Iowa has a long history of incorporating low cost traffic safety improvements in their 3R (rehabilitation, restoration and resurfacing) projects. Institutionalizing low-cost safety measures as a part of these projects has resulted in a system-wide improvement over the past 20 years. By continuing the practice, nearly every State primary road in Iowa will have safety improvements enhanced with resurfacing projects within the next 20 years.

Another significant roadway improvement program took place through the 1980s and 1990s which converted approximately one thousand miles of high-volume, high-crash two-lane corridors to four-lane expressways, making them significantly safer and reducing fatalities.

In 2003, as part of a new national effort, IDOT was one of the first States to sponsor a Safety Conscious Planning Forum. This was part of the continual process of finding new ways to elevate safety to a higher level of consideration in planning and programming roadway funding. Attendees were provided with customized maps detailing their county's road system crash data. Breakout discussions helped identify and explain the information presented in the maps, as well as suggest how it could be used for planning purposes.

Several years ago, IDOT refocused its highway safety improvement program (HSIP). In the past, equal consideration was given to crash rates, number of crashes and severity of crashes in ranking candidate safety locations. Now, the emphasis is on reducing fatal and severe injuries. This change has led to a safety infrastructure which primarily addresses lane departure crashes systematically. This type of crash represents 60 percent of all fatal crashes in the State.

Organized by IDOT's Office of Traffic and Safety, the Annual Iowa Traffic Safety Forum brings together researchers, consultants, State and local government traffic and safety engineers, and State agency safety partners. Primarily an engineering meeting, the one day forum includes formal presentations and reports from local agencies, along with discussions to facilitate the sharing of best practices.

Governor's Traffic Safety Bureau (GTSB)

In 1986, NHTSA's section 402 highway safety grant program became the responsibility of the DPS, with the Commissioner serving as the governor's representative for the program. Housed within the DPS, the GTSB administers the Federal grant program for traffic safety programs. Having led the GTSB since 1986, the current director is still in place, providing a strong level of continuity to the program.

By recognizing the importance of an effective State and Federal partnership, Iowa has generally aligned their priorities with nationally designated program priorities. The decision to parallel Federal priorities was also in part due to NHTSA's research information, demonstration project funding, and mission to assist the States. The GTSB

commits over 85 percent of their funding to impaired driving, seat belt use, child passenger safety and other key issues. These programs have benefited from the quality of data available to identify priority locations for program implementation and to measure program performance.

More importantly, the GTSB has developed a statewide working relationship with law enforcement agencies. The GTSB's leadership has distinguished itself by distributing Federal funds to as many law enforcement agencies as possible allowing partnerships to be formed in all 99 counties of the State. Using data to demonstrate the cost of crashes, the GTSB has shown the benefits of local traffic safety enforcement efforts, thus strengthening these relationships. Enforcement funding is currently provided by the GTSB to 72 out of 99 county agencies, 187 local police departments, 3 University public safety offices and the Iowa State Patrol. Additionally, a significant number of State, local police and county agencies annually participate in the State enforcement projects and report their results voluntarily (agencies with no GTSB funding).

The GTSB also administers the State's Drug Evaluation and Classification Program (DEC). Since implemented in 1991, the DEC program has trained 124 law enforcement officers as Drug Recognition Experts (DRE), and there are 14 DRE trained instructors. The program is now available to 52 counties.

A monthly contractors' meeting - attended by agencies that have highway safety grants with the GTSB - is organized to keep contractors up to date on emerging issues, as well as highlight and share program successes. Minutes from the meetings are shared via e-mail with all contractors.

To help facilitate communication within the State and local traffic safety community, the GTSB publishes, distributes, and posts on line a quarterly newsletter - *Crossroads*. *Crossroads* provides news on upcoming traffic safety programs and events, as well as educating readers about programs that are currently underway. The GTSB web site provides a variety of information about conferences, meetings, training opportunities, and upcoming safety initiatives, with all information easily downloadable in "Fact Sheet" format.

Jointly funded between the GTSB (\$100,000 Federal 402) and IDOT Engineering Services (\$100,000), the Traffic Engineering Assistance Program (TEAP) allows traffic engineering consultants to support smaller counties and cities by providing safety studies (each up to a maximum of 100 hours of time). With two consultants on call, the goal is to focus on existing crash problems and identify cost-effective countermeasures.

With their use of quality data, as well as their ability to demonstrate the effectiveness of research-based programs, the GTSB has continued to receive the support of leadership in the areas of funding enforcement, training, and public education programs and initiatives to increase safety. The GTSB and its supporters have made a tremendous impact on traffic safety in Iowa. Their efforts have resulted in the State having the second lowest impaired driving fatality rate in the country at 26 percent - compared to

the national average of 39 percent - and a seat belt use rate of 90 percent, which also significantly exceeds the national average of 81 percent.

Law Enforcement Agencies

Iowa's law enforcement agencies continue to be key players in the State's traffic safety efforts. In 1992, Iowa partnered with NHTSA to pilot test one of the first special Traffic Enforcement Programs (sTEP) in the country. At that time there were only 25 law enforcement agencies in the program. In 1999, however, the Federal reauthorization - entitled the Safe, Accountable, Flexible and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU) - provided special incentive funding to States demonstrating high safety belt use rates. Iowa used that funding to launch a statewide sTEP program. Funding was offered to all law enforcement agencies not otherwise receiving section 402 or 410 monies. GTSB's director has also selected many of the current contract administrators because of their long-time relationships with Iowa's law enforcement community. This has further cemented established partnerships throughout the State. Additionally, the GTSB law enforcement liaison (LEL), enhanced the multi-agency concept of traffic enforcement further by implementation of Iowa's Corridor Program. The State now has over 200 funded and non-funded law enforcement agencies participating in periodic mobilizations to change the behavior of the driving population as well as build the safety culture across the State.

IDOT Office of Driver Services

Iowa's crash report data is collected and maintained by the Office of Driver Services within IDOT. Starting in 1994, IDOT and DPS worked with all levels of law enforcement (city, county, and State) to create a personal computer (PC)-based crash reporting system. The national model program, identified as **TraCS** - Traffic and Criminal Software - is an integrated electronic data collection system allowing field collection of data using laptop computers and bar code scanners to accurately capture driver license numbers. TraCS is currently used by over 20 States and Canadian provinces. Designed as a fully integrated system, TraCS includes every report form used by law enforcement.

TraCS provides time benefits for law enforcement as it allows them quick access to accurate timely crash data. System data is uploaded over night and available to local agencies for review the following day.

The Office of Driver Services provides on-going training for law enforcement officials to maximize use of the data system, as well as the accuracy of the reporting forms. When updates and changes to the system or forms occur, the Office facilitates input from State, county and local police agencies to help ensure that the needs of law enforcement are met during periods of transition.

Because the TraCS system collects criminal activity in addition to traffic crash data, law enforcement officials have an added incentive to use the system. With TraCS data at their fingertips, law enforcement personnel can easily compile documentation that allows them to strengthen recommendations to policy makers. With the TraCS system in place, nearly 70 percent of Iowa's crash data is now reported electronically.

Champions of Iowa's Traffic Safety Initiatives

Iowa's traffic Safety champions have come from State and local areas of the traffic safety community. The structure of the SMS provides individuals and organizations with the opportunity to participate and collaborate on many of the policy and programmatic strategies that have taken place. The tools and services available to agencies and individuals created an environment free of barriers, with everyone sharing the same goal to achieve success.

Outstanding Individual

There is an individual who played a significant role in the early development of Iowa's key safety achievements. Due to the continuing importance of these contributions, it is appropriate to recognize him by name.

Considered the 'Father of the Culture of Safety' in IDOT, **Ian MacGillivray** was the Director of the Planning and Research division and a supporter of the Governor's Highway Safety Office, a part of the Office of Planning and Programming in the mid-1970s. With a planning engineer background, he recognized the need for quality data and the ability to perform in-depth analyses to plan and target resources. It was through his leadership in the 1980s that a partnership with Iowa State University first developed to provide research-based crash data analysis to planners. It was also during this period, through his vision for a statewide approach to addressing local crash problems, that the TSIP was created. As a consensus builder with political acumen, he worked to organize the State's city and county engineers to support legislation that resulted in the road use tax funding for local roadway improvements. Mr. MacGillivray is also fondly remembered for providing leadership and mentoring to IDOT's current safety staff.

State Agency Leadership

Within the broader background of collaboration and cooperation, the GTSB and IDOT'S Office of Traffic and Safety stand out as dynamic forces moving Iowa's safety agenda forward and energizing the traffic safety community at the State, local and national levels.

Historically, the Office of Traffic and Safety has been at the forefront of identifying both the need for data, and the benefits of data analysis for planning and policy making. Recognized nationally as a leader in developing and sharing engineering countermeasures, the Office of Traffic and Safety is represented on a number of national committees. This influence at the national level has not only brought attention to successful programs in Iowa, but it has also provided the State access to cutting edge strategies to bring back and implement in Iowa.

By presenting Iowa's crash data in clear, user friendly terms, the Office of Traffic and Safety has built a statewide network of informed and motivated individuals and agencies that support programmatic countermeasures and policy initiatives.

With a 20 year history of stable leadership, the GTSB has developed long-standing positive relationships with other organizations in the traffic safety community. These organizations – including State, local and county law enforcement, as well as local units of government, other State agencies, and private partners – have supported the GTSB, helping to strengthen, and therefore increase the effectiveness of, their traffic safety programs and initiatives.

Iowa's local road safety and assistance programs have removed the barriers for local governments to implement safety improvements. IDOT and GTSB provide a high level of service to local agencies resulting in a strong working relationship free of territorial issues. Allowing locals easy access to information, training and State funded safety grants has been a successful approach.

As at the State agency level, interaction and coordination between State and local agencies, as well as local-to-local agency relationships are strong.

Through their individual efforts, as well as joint initiatives, both the GTSB and the Office of Traffic and Safety have worked diligently to lower the number of fatalities on Iowa's roadways. Moreover, by freely sharing resources, the efforts of both organizations have greatly benefited other State programs.

Other Traffic Safety Partners

Iowa has a major advantage over many other States. The State is large enough to have the resources and expertise to address traffic safety issues, yet small enough that a positive impact can be achieved through direct contact by the State agencies with traffic safety partners. Because so much of the State is rural, many of the problems are consistently experienced across the State. Strategies that work in one area can typically be applied to similar roadways in another area.

MPOs and Regional Planning Affiliations (RPAs), which cover non-metropolitan areas, receive direct allocations of Surface Transportation Program (STP) funding. These agencies are responsible for preparing their own transportation plans and for programming any Federal transportation funds.

RPAs and MPOs meet quarterly with IDOT for safety discussions. These peer-to-peer exchanges provide an opportunity for the agencies to share their programming decisions, as well as to examine available data tools. By informally meeting among peers, the discussions and suggestions are well received by the agencies which helps maintain the momentum for safety projects.

Also integrated into the overall safety network, the **Emergency Management System (EMS)** has made its own impact on Iowa's roadway safety. The Department of Public Health houses the EMS Bureau which works directly with EMS providers, 80 percent of which are volunteers. In the mid-1990s, the EMS Bureau made a significant contribution by leading the efforts to develop a statewide EMS run report and a trauma system. To support the new reporting system, the EMS Bureau partnered with the Motor Vehicle

division to provide training for EMS service providers. This activity ensured the accurate capture of driver license and crash report information.

One of the early adopters of the Crash Outcome Data Evaluation System (CODES), a program supported by NHTSA, Iowa began using the system in 1997. CODES provides the State with a range of cost information for major injuries in traffic crashes, as well as assists in the conduct of regular cost-benefit analyses. The IDOT Motor Vehicle division, Office of Traffic and Safety and Office of Driver Services met regularly with the GTSB and EMS to help develop the system. As the level of comfort increased, CODES became an accepted way of combining crash data with hospital, emergency, and EMS data to understand injury costs within crashes, as well as other related costs.

Supported cooperatively by IDOT and the GTSB, the **Iowa State University Center for Transportation Research and Education (CTRE)**, is the primary safety research agent for IDOT. Through IDOT's partnership with CTRE, a number of crash analysis tools were developed to further assist the safety community. Among these tools, two have become very widely used: the Crash Mapping Analysis tool (CMAT) and the Iowa Traffic Safety Data Service (ITSDS).

Developed by CTRE under the direction of the Office of Traffic and Safety and IDOT, CMAT is an easy-to-use software program which provides access to crash data through a geographic information system (GIS) map interface. Through the support of IDOT and GTSB, CMAT software and training are available at no cost to cities, counties, consultants, researchers, and anyone who wants to use crash data to make the roadways safer. To best service its community of users, GTSB frequently revises CMAT, keeping it up to date and user friendly.

In addition, a more sophisticated GIS crash analysis tool - the Safety, Analysis, Visualization and Exploration Resource (SAVER) - is offered by IDOT to provide in-depth information regarding traffic crash histories. SAVER also contains other data (e.g. roadway, rail, river, corporate limits, etc.) vital to the analysis of safety and will read data (e.g., traffic citations, crime incidents, operating while intoxicated) from the TraCS software.

In addition to CMAT, the CTRE houses the ITSDS, as well. Funded jointly by IDOT and the GTSB to provide free crash data analysis resources, this service was created to benefit State, county and local engineers, researchers, law enforcement agencies, advocacy groups, and others. Data requests can be made by using an on line data request form to receive information including, but not limited to, area specific crash histories, fatality and injury data, and alcohol-related crash information. Report formats can be provided as maps, diagrams, or reports.

As we recognize those responsible for Iowa's statewide traffic safety success, it is important to understand that, while there are several Federal, State and local organizations that have made an enormous impact, they do not stand alone in their efforts to help Iowa achieve its roadway safety goals. Critical contributions have been made by a wide variety of agencies and organizations throughout the State.

- The **IDOT Motor Vehicle division** has worked diligently with the State's law enforcement agencies on a number of safety projects.
- The **Iowa Motor Truck Association** – representing private trucking companies – played a key support role to help promote work zone safety and keep the State's speed limit at 65 mph.
- The **Iowa Illinois Safety Council** has been a significant partner over the years providing both the Network of Employers for Traffic Safety (NETS) workplace safety programs and facilitating partnerships between the State and the private sector.
- The **Iowa County Attorneys' Association** provides their members with training opportunities regarding new laws, the application of laws, and changes in procedures.
- The **Iowa Department of Public Health – EMS Bureau** implements training on child passenger safety education to technicians and education for all Iowans who transport children.
- Providing leadership in the area of child passenger safety legislation, **Blank Children's Hospital** and **Iowa Safe Kids** have also promoted child safety seat programs.
- **Farm Safety 4 Just Kids** mentors rural teenage youth groups through a peer exchange utilizing the program "Buckle Up or Eat Glass" on the importance of safety belt use as well as other rural hazards.
- The **Iowa Health System** supports the Trauma Injury Prevention System to offer free statewide assemblies to grade and high school age children regarding spinal injuries – the highest number are incurred by not using safety belts - with real life stories.
- Through its efforts to locate alternate transportation to assist the State's sizeable older driver population, the **Alzheimer's Association** has made important contributions to Iowa's traffic safety success.

Political Leadership

Strong legislative leadership is evident in the impressive array of significant traffic safety legislation that has been enacted in Iowa. In 1982, the State's administrative license revocation law for driving while impaired (under the influence of alcohol or drugs) became effective. The impact of the law was enhanced by a strong statewide enforcement and public information effort coordinated through the GTSB and later aligned with the national enforcement mobilizations. The impaired driving laws are also supported by the use of the TraCS electronic data collection system. TraCS provides for the seamless transfer of arrest information and follows the offender until all requirements for administrative and judicial sanctions have been completed. Passage of the .02 BAC (breath alcohol content) law for persons under the age of 21 and stiffer

impaired driving penalties were enacted in 1995, and, a graduated driver's licensing law was achieved in 1999.

Occupant protection has long been a priority of the GTSB and is reflected today in the State's high seat belt use rate. This outstanding achievement began with passage of the State's child passenger law in 1984. Work began soon after to obtain an adult seat belt law through the formation of a broad-based coalition. At that time, multiple forces worked together including the 'Traffic Safety Now' (TSN) coalition. TSN was funded by the American Automobile Manufacturers Association (AAMA) for a one year public information and lobbying effort. The GTSB and IDOT's Office of Driver Services provided statewide and national data to support the need for the adult law and in particular, a primary enforcement law. Law enforcement at all levels and their associations addressed the legislature along with the medical community, engineers and other partners. TSN supported a strong public relations campaign to provide messages to the legislature and the general public. Rallies and public awareness events with a strong law enforcement presence were coordinated by the coalition and held throughout the State. One of the most effective activities involved people who had been seriously injured in traffic crashes. They shared their personal stories with the legislators and testified that their injuries could have been prevented -- if only they had been wearing a seat belt. By conceding to include a six month education and enforcement warning period, Iowa overcame the opposition. A primary enforcement seat belt law was enacted in July 1986, just one year after initiating the effort. A strong public information campaign, prior to and following the initiation of the enforcement period in January 1987, was critical to attaining an initial increase in safety belt use from 18 percent before the law to 55 percent in August 1988, just two years following enactment.

Support for the State's unique TSIP was sealed when legislation was approved in 1987 to earmark one half of one percent of Iowa's road use tax as a dedicated funding source for roadway safety improvements. The need for local agency funding to address traffic safety problems was recognized and championed by the Director of IDOT's Planning and Research division. Through his efforts, city and county engineers were organized to support the commitment of a portion of their funding for local roadway improvements in all areas of the State.

Although Iowa has been unable to enact a motorcycle helmet law, the legislature has been proactive in supporting other traffic safety initiatives, such as, protecting young drivers, and, established a .08 BAC law.

Figures 3 and 4 compare the year key public policy initiatives were enacted and the fatality rate in Iowa at that time. Although there were other major contributing factors, such as infrastructure improvements, they are not identified in these charts.

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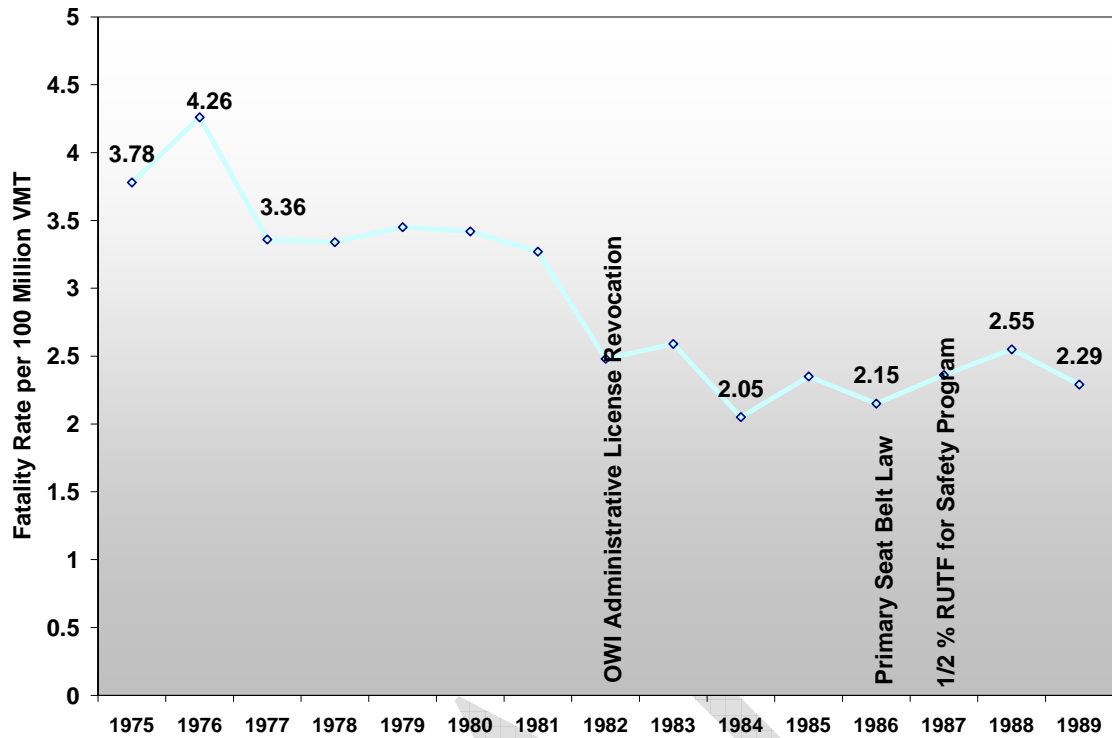


Figure 3. Major Policy Initiatives and Fatality Rates in Iowa from 1975 - 1989

SOURCE: Office of Driver Services, Iowa Department of Transportation

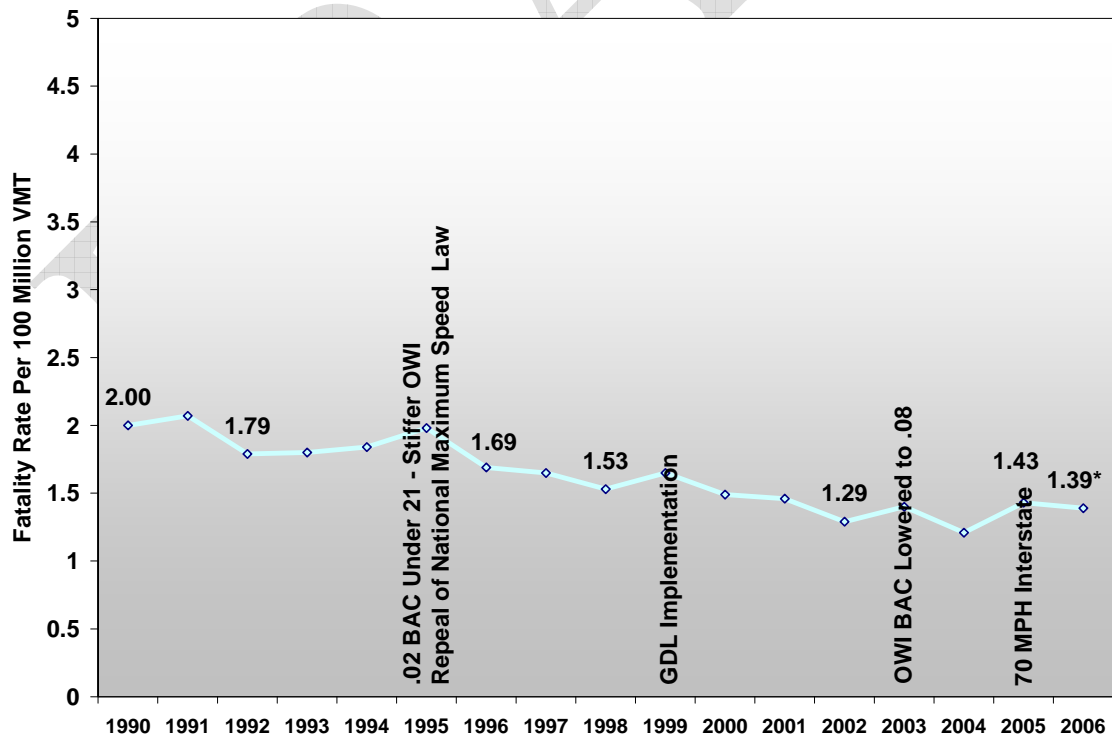


Figure 4. Major Policy Initiatives and Fatality Rates in Iowa from 1990 - 2006

SOURCE: Office of Driver Services, Iowa Department of Transportation - *Preliminary number

Reinforcing Iowa's Traffic Safety System Structure

Public Education

To provide traffic safety information to the general public, the GTSB – using primarily public service announcements (PSAs) and paid media – distributes information and develops materials. All are research-based publications. Public opinion surveys are used to determine whether the target audiences are being reached, as well as to gauge the effect of the materials on self-reported driving behavior.

The change in national policy allowing the GTSB to purchase advertising was an important development in the State's increased ability to reach targeted audiences with specific messages. Media placement created the need for professionally developed TV and radio spots and newsprint ads to enhance the effectiveness of the impaired driving and seat belt enforcement campaigns.

The GTSB works closely with an established and well-respected advertising agency that has, and continues to play, an integral part in creating successful media campaigns for the State. The agency – with its long-standing relationships in the industry – has significantly leveraged the State's paid media buys with additional value-added spots and bonus placement, thus greatly multiplying the exposure of the campaigns.

Media

The Iowa news media have been very responsive to the State's traffic safety priorities. The availability of data to support key issues, campaigns, and events has helped to keep the media, as well as the public, engaged in traffic safety issues and interested in key statewide initiatives. Emerging issues, such as younger and older drivers, in addition to support for the periodic enforcement mobilizations, have been well reported.

The Future of the Foundation

Iowa's Strategic Highway Safety Plan (SHSP)

In addition to the *SMS Toolbox*, the SHSP has also become a central source for highway safety strategy development in Iowa. The SHSP identifies multi-disciplinary strategies based on the 4 E's: engineering, enforcement, education, and emergency services.

IDOT, as the lead agency in developing the SHSP, assigned a full-time position to coordinate development. Moreover, IDOT worked with a contractor to facilitate the SHSP process and provide an outside perspective for considering new safety initiatives.

As a part of their continued efforts to support and strengthen the SHSP, IDOT and the GTSB jointly organized a 2006 traffic safety summit. With over 100 stakeholders in attendance representing both public and private interests, the summit was a great success.

Using information from Iowa's outstanding crash data collection and analysis system, participants were challenged to identify strategies that would significantly reduce fatalities and injuries. Summit attendees participated in breakout sessions to identify safety issues where the greatest gains could be made. Eight target areas were identified:

1. Senior Mobility
2. Occupant Protection
3. Intersections
4. Lane Departures
5. Local Roads
6. Young Drivers
7. Impaired Drivers
8. Driver Distraction

Multi-disciplinary teams were then formed to identify policy and program strategies for each of the emphasis areas.

After the summit, traffic safety leaders agreed to rename the SHSP, making it the Comprehensive Highway Safety Plan (CHSP) because of its far reaching and multi-disciplinary nature. Further discussions led to the development of a theme to demonstrate the State's position on traffic safety. Those involved identified "1 death is 1 too many" as a dramatic message to remind citizens and policy makers not only of Iowa's past success, but also of its expectation that there are still gains to be made in reducing fatalities.

With the CHSP just recently drafted, action plans and performance measures for each strategy are yet to be finalized. Because many of the behavioral strategies outlined in the CHSP are also strategies in the GTSB Highway Safety Plan (HSP), accountability and performance measures are in place in the interim for some of the CHSP behavioral strategies. Similarly, engineering strategies that align with IDOT's State Highway Improvement Plan are held accountable through that process. Target teams will report back on their progress at the CHSP quarterly meetings where performance measures and action plans will be further developed.

III. Conclusion

Iowa's success is an outstanding example for other States which also experience a large percentage of fatalities on local rural roads to examine. The State's culture of traffic safety recognized early that a commitment to addressing the 'worst first', regardless of whether the problem arose on a State or local road, was necessary for them to significantly impact the fatality rate. By utilizing a State-led systematic approach and with a solid foundation of data analysis and directed program strategies, Iowa has steadily improved its traffic safety record.

For decades multiple disciplines have collaborated in an outstanding manner. The benefit of having a separate full-time State Safety Engineer and a designated full-time

Traffic Engineer, both with staff support, within IDOT are clear. With leadership from this office, data-driven solutions have been effectively implemented. Iowa has successfully removed barriers and ensured that local road improvements are a major element of the overall traffic safety strategy.

The crash data collection and analysis system that supports this process, developed in partnership with Iowa State University, is a national model and a key factor in the ability to provide clear and pertinent information to both State and local agencies.

At the heart of the State's success is the dedicated funding source for local agencies, the TSIP program. A large share of the low cost safety improvements and necessary construction to resolve problems on high crash roads can be completed. This approach ensures that the information gathered by its data systems is actually put to good use.

Long-term stability in the leadership of the GTSB has led to the development of a statewide network of dedicated traffic safety partners. State program strategies are aligned with national traffic safety initiatives, and, the support of the majority of State and local law enforcement agencies is actively engaged.

Sustaining the State's SMS program over an extended period of time has enabled Iowa to continuously maintain a broad-based infrastructure of partners ready to take action. The SMS "Toolbox" is truly unique and has been an essential component to being able to provide agencies with a wide range of proven traffic safety strategies.

Legislative champions have demonstrated their firm commitment to the safety culture by providing the public policy initiatives needed to deliver the safety message to the public. These key impaired driving and occupant protection laws were enacted much earlier than in many other States and continue to reap big benefits today.

Common to all levels of leadership is a true passion for reducing the potential effect of traffic crashes on Iowa's citizens. There is no individual 'ownership' for the gains that have been made. Success in Iowa is measured only by each life that is saved.

IV. Summary of Critical Success Factors

- **Long existence of the SMS Coordinating Committee and the strong partnership between State agencies**
- **Designated IDOT State Safety Engineer and a State Traffic Engineer with staff**
- **Data-driven development and implementation of the SMS Toolbox**
- **Continuous focus on safety by the GTSB and IDOT's Office of Traffic and Safety**
- **Stability in the Director's position at GTSB and the Safety Engineer's position at IDOT**
- **A "national model" data collection system – TraCS - and the ability to share data quickly**
- **Local engineering assistance programs made available at little or no cost**

- State-funded Traffic Safety Improvement Program for local roadway enhancements
- System-wide low cost safety improvements as part of the IDOT resurfacing program
- Expert support services from the University of Iowa and the Iowa State University CTRE program
- Active network of law enforcement agencies at the State, county and local levels
- Early enactment of strong impaired driving and seat belt laws
- Implementation of Safety Conscious Planning
- Inherent pride in producing effective safety programs and achieving results



V. Epilogue

Despite the strong tradition of improving traffic safety, the agencies are continually challenged to maintain a high level of focus. The following list identifies the most frequently cited potential “threats” to the continuation of Iowa’s traffic safety achievements. A review of this list can provide insight for other States.

TABLE 3. POTENTIAL THREATS TO IOWA’S TRAFFIC SAFETY FUTURE

- Lack of a sufficient safety culture to make difficult or controversial policy choices
- Program funding and decisions being questioned if positive results are not continued
- A precipitous drop in fatalities that may prompt legislative changes
- Fewer “easy” solutions available for implementation
- Maintaining the funding from the road use tax which is critical to local programs
- Loss of the successful driver education program due to the expense
- A change in public attitudes that could weaken existing laws
- An aging driver population – 4th highest in the country for the percentage of drivers over 65 years
- Increasing number of motorcycle crash deaths
- Dramatic increase in aggressive driving (distracted and speeding drivers)

VI. Sources

Iowa Comprehensive Highway Safety Plan (CHSP) (DRAFT – February 2007)

Iowa Drug Recognition Expert Program

<http://www.dps.state.ia.us/commis/gtsb/GTSBdre.shtml> (April 2007)

Iowa SMS Toolbox of Highway Safety Strategies

<http://www.iowasms.org/reports/toolbox.htm> (April 2007)

Iowa Summary of Accomplishments

<http://www.dottrcc.gov/sharedex/IOWA-summofaccomp.html> (May 2007)

Iowa Traffic Safety Data Service

<http://www.ctre.iastate.edu/itsds/index.htm>

Removing the Barriers for Safety Conscious Planning by Local Government

Lifelines AASHTO-NCHRP Project 17-18 Vol.1 No. 2 July 2004

National Model for the Statewide Application of Data Collection and Technology to Improve Highway Safety and Traffic Criminal Software (TraCS) – Business Plan

Approved by the National Model Steering Committee January 2006 revised June 2006

AASHTO Strategic Highway Safety Plan - Case Studies, NCHRP Project 17-18(6) NCHRP Research Results Digest March 2002-Number 265

VII. Interviewees

Stuart Anderson, P.E., System Planning, Office of Traffic and Safety, IDOT

Romell Cooks, Regional Administrator, Central Region, NHTSA

Jeff Davidson, Executive Director, Johnson County Council of Governments

Scott Falb, Research and Statistical Analysis, Office of Driver Services, IDOT

Janet Goldsmith, Occupant Protection Program Manager - Retired GTSB

Zach Hans, Research Engineer, CTRE Iowa State University

Dick King, County Engineer, Black Hawk County

Mike Laski, Director, GTSB

Jerry Roche, P.E., Safety Engineer, FHWA

Tim Simodynes, P.E., Office of Traffic Safety, IDOT

Kim Snook, Driver Services Field Manager, Office of Driver Services, IDOT

Mary Stahlhut, Safety Program Manager, Office of Traffic and Safety, IDOT

Robert Thompson, Program Evaluator, GTSB

Tom Welch, P.E., State Transportation Safety Engineer, Office of Traffic and Safety, IDOT

APPENDIX - CASE STUDY QUESTIONS FOR STATE VISIT

1. What convinced top leadership to embrace safety and coordinate efforts?
2. What were the processes used that brought about the institutionalization of safety?
3. How did safety become a focus for other agencies (i.e., MPOs, law enforcement, EMS)?
4. Who or what agencies were the champions for safety in the State and what did they do?
5. How are resources shared among State agencies and with local agencies (staff, technical information, and data)?
6. What types of public education efforts have been undertaken?
7. How has the State utilized partnerships in general, including the State's relationship with Federal partners?
8. What motivated elected officials to embrace traffic safety issues?
9. What have been the primary traffic safety regulatory and enforcement initiatives over the years?
10. How was the cost of safety initiatives balanced with other demands on resources?
11. What types of coordination and technical support are available for safety analysis and programming?
12. How was the process for developing the SHSP determined?
13. What agency is primarily accountable for oversight of the SHSP?
14. Are performance measures in place to measure the results of SHSP strategies?
15. What is the biggest threat to sustaining the traffic safety gains that have been made?

Case Study Focus Areas

<ol style="list-style-type: none">1. Background Information<ul style="list-style-type: none">• State demographics• Fatality number and rate targets2. Organizational Leadership<ul style="list-style-type: none">• State agencies• Other government agencies• Champions• Resource sharing• Public education• Public involvement• Partnerships• Media	<ol style="list-style-type: none">3. Political Leadership<ul style="list-style-type: none">• Leadership• State safety legislation4. Institutionalizing Safety<ul style="list-style-type: none">• DOT organizational structure• SHSP development process• Accountability• Participating agencies• Evaluation• Funding• Data analysis, quality and sharing
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